

Claims

1. A circulation device for circulating a liquid in a treatment vessel for treating light-sensitive material, wherein the circulation device has a feed pipe arranged roughly vertically in the treatment vessel through which liquid can flow in from a feed line into the treatment vessel, a flow cross-section (A) of the feed pipe being dimensioned so that the inflowing liquid from the feed line backs up in the feed pipe and generates a hydrostatic pressure which is such that outflowing liquid from an outlet opening of the feed pipe produces a circulation movement of the liquid in the treatment vessel.
2. The circulation device as claimed in claim 1, wherein the inflow section of the feed pipe in which a liquid column is formed has at the height of a maximum filling level of the liquid column a flow cross-section (A_1) that is dimensioned in relation to the flow cross-section (A_2) of the outlet opening so that a liquid stream (Q_2) flowing from the outlet opening corresponds roughly to a liquid stream (Q_1) flowing into the inflow section at the maximum filling level in the inflow section.
3. The circulation device as claimed in claim 2, wherein a ratio of the flow cross-section (A_1) of the inflow section at the height of the maximum filling level of the liquid column to the flow cross-section (A_2) of the outlet opening is in a range from 3:2 to 3:1.
4. The circulation device as claimed in claim 2, wherein the inflow section has a tapering flow cross-section

and transforms into an outflow section with a tapering flow cross-section, whose open end forms the outlet opening.

5. The circulation device as claimed in claim 4, wherein the outflow section is curved so that the flow direction of the liquid flowing from the outlet opening is aligned roughly parallel to a floor of the treatment vessel.
6. The circulation device as claimed in claim 2, wherein an overflow opening that defines the maximum filling level of the liquid column in the inflow section is provided at the inflow section.
7. The circulation device as claimed in claim 1, wherein the feed pipe is positioned in the treatment vessel in such a way that the feed line projects, spaced from inner walls of the feed pipe, into the inflow section.
8. The circulation device as claimed in claim 7, wherein a non-return valve is provided in the feed line.
9. The circulation device as claimed in claim 1, wherein the circulation device has a sensor for detecting light-sensitive material and an adjustment unit coupled to the sensor for actuating the feed line, the adjustment unit opening the otherwise closed feed line when it detects light-sensitive material.
10. The circulation device as claimed in claim 1, wherein the liquid flowing in through the feed pipe displaces liquid from the treatment vessel through an outflow provided in the treatment vessel.

11. The circulation device as claimed in claim 10, wherein an overflow pipe is provided as outflow in the treatment vessel, adjacent to the feed pipe.